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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/599,813	07/17/2007	Anand Chellappa	37929-32102	5027
7590 Mark H. Krietzman c/o The Eclipse Group Suite 150 1920 Main Street Irvine, CA 92614				
01/18/2011				
EXAMINER				
HANDAL, KAITY V				
ART UNIT		PAPER NUMBER		
1723				
MAIL DATE		DELIVERY MODE		
01/18/2011		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Advisory Action**  
**Before the Filing of an Appeal Brief**

**Application No.**

10/599,813

**Applicant(s)**

CHELLAPPA, ANAND

**Examiner**

KAITY V. HANDAL

**Art Unit**

1723

**--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

THE REPLY FILED 28 December 2010 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.  
b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.  
Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**NOTICE OF APPEAL**

2. ☐ The Notice of Appeal was filed on \_\_\_\_\_. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

**AMENDMENTS**

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because  
(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);  
(b) ☐ They raise the issue of new matter (see NOTE below);  
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or  
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).  
5. ☐ Applicant's reply has overcome the following rejection(s): \_\_\_\_\_.  
6. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).  
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: \_\_\_\_\_

Claim(s) objected to: \_\_\_\_\_

Claim(s) rejected: 15, 17 and 19-28

Claim(s) withdrawn from consideration: 1-14 and 29-31

**AFFIDAVIT OR OTHER EVIDENCE**

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).  
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).  
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

**REQUEST FOR RECONSIDERATION/OTHER**

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:  
See Continuation Sheet.  
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08) Paper No(s). \_\_\_\_\_  
13. ☐ Other: \_\_\_\_\_

/Alexa D. Neckel/  
Supervisory Patent Examiner, Art Unit 1723

/K. V. H./  
Examiner, Art Unit 1723

Continuation of 11, does NOT place the application in condition for allowance because: 1. arguments filed 12/28/2010 have been fully considered but they are not persuasive as follows:

Prior Art Rejection: Applicant's

a. On Page 9, last paragraph through page 10, Applicant argues the following: However, claim 15 recites a single hydrogen reactor chamber forming "a series of distinct zones or portions." This series of distinct zones or portions are part of the single hydrogen reactor chamber, rather than each forming distinct chambers of its own. Thus, the separate chambers of Clawson cannot satisfy the zones of a single chamber as recited in claim 15.

Examiner respectfully disagrees and points out that the reaction stages (28, 66, 84) of Clawson are positioned in a hydrogen reactor chamber (Fig. 1, 12), as instantly claimed. The claims do not provide any structural limitations regarding the positioning of the catalysts in relation to one another. The limitation "a plurality of steam reformation catalysts to form a staged configuration...comprising a series of distinct zones or portions...etc." is broad in that it does not make any mention of the catalysts being positioned as illustrated in instant Figure 2 such that the zones are in contact with one another. Therefore Clawson reads on the instant invention as instantly claimed.

b. On Pages 11, 1st and 2nd paragraphs, Applicant argues the following:

Applicant submits that the limitation of a high-activity steam reformation catalyst is more than merely a name. Claims are limited by the language thereof, including names given to distinct limitations, as well as the plain meaning thereof. The plain meaning of the term "steam reformation catalyst" cannot be so easily dismissed in order to reject the claim over a different type of catalyst.

Those having ordinary skill in the art recognize the difference between a steam reformation catalyst and a water-gas shift catalyst. Applicant submits Clawson as evidence of this very point. Clawson, itself, demonstrates that such a difference between catalysts exists by designating a steam reforming catalyst 28 as a distinct and separate type of catalyst relative to high temperature shift catalyst 66 and low temperature shift modifying catalyst 84. Had Clawson intended element 66 to be a steam reforming catalyst, as with its steam reforming catalyst 28, it would have so designated it. Instead, Clawson designates both element 66 and element 84 as distinct shift catalysts.

Examiner respectfully disagrees and points out that Clawson's high activity steam reformation catalyst (66) is the same as the instantly claimed high-activity steam reformation catalyst in that it comprises a noble metal, it is a supported nickel-based catalyst - as set forth above, and is positioned downstream of a steam reformation catalyst (28); therefore, irrespective of the "name" given to the catalyst, and given the above, the modified catalyst (66) of Clawson will perform the same as the instant high activity steam reformation catalyst. Furthermore, Examiner respectfully points out that instant equations (1) & (2) are performed by using the coke resistant catalyst in combination with the high activity catalyst and the water gas shift catalyst at specific composition percentages and under selected operational conditions of temperature, pressure and residence time - see example 1 on page 19. In addition, Applicant refers to all three claimed catalysts as "steam reformation catalyst", but however the catalysts perform differently as instantly disclosed. The question is: how are the two catalysts, Clawson's catalyst (66) versus the instant high-activity catalyst, differently based on the instant claims?

Therefore, contrary to Applicant's remarks, Clawson does teach each and every element of claim 15.

c. On Page 11, 4th paragraph through Page 12, 4th paragraph, Applicant argues the following:

Here, the Office Action mischaracterizes Clawson. Clawson never mentions nickel with respect to high temperature shift catalyst 66. While nickel may be considered a transition metal, one having ordinary skill in the art could not have been expected to readily separate nickel from among the laundry list of over 60+ elements that are within the broad group of "transition metals." It must be noted that Clawson does call out particular transition metals and metal oxides without any mention of nickel with respect to high temperature shift catalyst 66.

Because Clawson fails to teach or suggest a high-activity steam reformation catalyst of a supported nickel-based catalyst, it is respectfully submitted that Clawson fails to teach each and every element of claim 15. As such, it is respectfully submitted that claim 15 and its respective dependent claims are not anticipated by the teachings of Clawson, and reconsideration is respectfully requested.

Examiner respectfully disagrees. Clawson does teach a high-activity steam reformation catalyst of a supported nickel-based/transition-metal based catalyst. Though Clawson states "transition-metal" and does not specifically state "nickel" (col. 4, lines 43-58), and though Clawson names a few examples of transition metal oxides which do not include nickel; one skilled in the art would have recognized that "nickel" is also an option because it is a transition metal as well and because examples of metal oxides named are not exclusive of other transition metal oxides such as nickel. Moreover, one skilled in the art reading Clawson would have considered the use of nickel in the high-activity steam reformation catalyst since Clawson discloses using nickel for the steam reforming catalyst (28).

d. On Page 12, 4th paragraph, Applicant argues the following:

Furthermore, while operational conditions are not relied upon to give the claims meaning, inherent in the plain meanings of a "steam reformation catalyst" and a "shift catalyst" are that the respective catalysts are configured to facilitate separate and distinct processes. As such, each has a disparate configuration such that each imparts its designated function under a distinct set of conditions. For example, the disclosure of Clawson states:

Clawson clearly delineates between the two distinct processes. As such, one having ordinary skill in the art would not have interpreted the high temperature shift catalyst 66 of Clawson to include a high-activity steam reformation catalyst.

Because Clawson fails to teach or suggest both a high-activity steam reformation catalyst and a coke-resistant steam reformation catalyst, it is respectfully submitted that Clawson fails to teach each and every element of claim 15. As such, it is respectfully submitted that claim 15 and its respective dependent claims are not anticipated by the teachings of Clawson, and reconsideration is respectfully requested.

Examiner respectfully disagrees. Clawson's catalysts as modified are the same as those instantly claimed in terms of composition and positioning as set forth above in section b. Therefore, Clawson's catalysts as modified will perform the same as instantly claimed when subjected to the same operational conditions. It is noted that Applicant's instant specification discloses in example 1 on page 19 that the coke-resistant property is a function of providing an excess of steam thereby promoting a water gas shift reaction. Therefore, the Applicant is arguing an operational condition, and possibly structural elements, that are not reflected in the claims and which does not lend any structural limitation to the instantly claimed apparatus as set forth by the Applicant. The question is, what does the instant apparatus and/or the instant catalyst comprise such that it is a coke-resistant catalyst?

Furthermore, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., operational condition of temperature, steam) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). .